

IN THE CLAIMS

1. (currently amended) A method for surface treating a titanium~~metal~~ orthopedic prosthesis having a portion for implantation in bone comprising:

blasting at least the portion for implantation on bone with a first chilled iron grit, cleaning the portion and thereafter blasting the portion with a second finer chilled iron grit and thereafter leaching out any grit on the stem surface with acid, wherein the acid treatment is in 20% nitric acid for at least 20 minutes at ambient temperature under ultrasonic agitation.

2. (original) The method as set forth in claim 1 wherein said iron grit is between 180 and 1190 microns in size.

3. (previously presented) The method as set forth in claim 1 wherein said acid treatment is in 20% nitric acid for no more than 40 minutes at ambient temperature.

4. (previously presented) The method as set forth in claim 1 which includes using 20% dilute hydrochloric acid to remove any insoluble iron salts left after treatment with the nitric acid.

Claim 5 (canceled)

6. (previously presented) The method as set forth in claim 5 wherein the blasting is with a G07 chilled iron grit at a pressure of 6.5 bar at 40 cubic meters per hour of air through a 9.5 mm nozzle and a 4.8 mm air jet.

7. (original) The method as set forth in claim 6 which includes blasting with G12 chilled iron grit at 6.5 bar air pressure through a 9 mm nozzle before blasting with G07 grit.

8. (original) The method as set forth in claim 7 wherein the blasting time or times is 3 to 4 minutes with a stand off distance of between 10 to 50 mm.

9. (original) The method as set forth in claim 1 wherein at least two warm or cold water rinses are applied after the acid treatment.

10. (currently amended) A method of forming a roughened, decontaminated surface on a titanium~~metal~~ article which includes the single ~~or~~ multiple blasting of the surface twice with a first and then a second size ~~with a~~ chilled iron grit of appropriate roughness structure including cleaning the article by air blowing between blastings followed by acid pickling after the second blasting to produce a contamination free surface of substantially  $S_q$  5 to 10  $\mu\text{m}$ , wherein the acid treatment is in 20% nitric acid for at least 20 minutes at ambient temperature.

11. (original) The method as set forth in claim 10 wherein the chilled iron grit has a roughness structure of between 180 to 1190 microns.

12. (previously presented) The method as set forth in claim 10 wherein said acid treatment is in 20% nitric acid for no more than 40 minutes at ambient temperature.

13. (previously presented) The method as set forth in claim 10 which includes using 20% dilute hydrochloric acid to

remove any insoluble iron salts left after treatment with the nitric acid.

14. (previously presented) The method as set forth in claim 10 further including the application of ultrasonic agitation during the acid treatment.

15. (currently amended) The method as set forth in claim 14 wherein the second blasting is with a G07 chilled iron grit at a pressure of 6.5 bar at 40 cubic meters per hour of air through a 9.5 mm nozzle and a 4.8 mm air jet.

16. (currently amended) The method as set forth in claim 15 which includes first blasting with G12 chilled iron grit at 6.5 bar air pressure through a 9 mm nozzle before blasting with G07 grit.

17. (original) The method as set forth in claim 16 wherein the blasting time or times is 3 to 4 minutes with a stand off distance of between 10 to 50 mm.

18. (previously presented) The method as set forth in claim 14 wherein at least two warm or cold water rinses are applied after the acid pickling.

1920. (currently amended) The method as set forth in claim 10 wherein the metal article is a prosthesis which has an insertion portion extending from an operative portion, and in which the roughened decontaminated surface is formed on the insertion portion.

20±. (currently amended) The method as set forth in claim 1920 which includes applying a protective cover to the operative portion.

Claim 21 (canceled)

223. (currently amended) The method as set forth in claim 14 wherein the metal article is a prosthetic titanium or titanium alloy implant comprising a bone contacting portion having a surface with an average surface roughness  $S_a$  of 5-10  $\mu\text{m}$ , said surface being substantially free of aluminum and silicon contamination when measured by an EDAX elemental analysis.

23. (new) The method as set forth in claim 1 wherein the first chilled iron grit is G12 size grit and the second chilled iron grit is G07 size iron grit.